

WHAT IS CLAIMED IS:

1. A primer set comprising sequences of 5'-  
CGCGCCGACCGAGACCTG - 3' (SEQ. ID NO:1) and 5'-  
5 GGGGCACGCCAACATCCT -3' (SEQ. ID NO:2).
2. A method of detecting the presence of *Acidovorax avenae* subsp. *citrulli*. in a test sample, the method comprising the steps of:
  - (a) providing DNA from a test sample suspected of containing DNA of *Acidovorax avenae* subsp. *citrulli* or a test sample of bacterial cells or microorganisms suspected of containing DNA of *Acidovorax avenae* subsp. *citrulli*;
  - (b) amplifying a target sequence of DNA from the test sample using primers comprising 5'-CGCGCCGACCGAGACCTG - 3' (SEQ. ID NO:1) and 5'-GGGGCACGCCAACATCCT -3' (SEQ. ID NO:2) under amplification conditions; and
  - (c) detecting the presence of the amplification product(s) of the target sequence of DNA as an indication of the presence of *Acidovorax avenae* subsp. *citrulli* in the test sample.
3. A method of evaluating or monitoring the efficacy of treatments utilized to eliminate *Acidovorax avenae* subsp. *citrulli* from a seed lot, the method comprising the steps of:
  - (a) providing a first test sample from a seed lot suspected of containing DNA of *Acidovorax avenae* subsp. *citrulli*;
  - (b) providing DNA from said first test sample or cells or microorganisms from the first test sample suspected of containing *Acidovorax avenae* subsp. *citrulli*;
  - (c) amplifying a target sequence of DNA using primers comprising 5'-CGCGCCGACCGAGACCTG - 3' (SEQ. ID NO:1) and 5'-

GGGGCACGCCAACATCCT -3' (SEQ. ID NO:2) under amplification conditions;

5 (d) detecting the presence of amplification products of the target DNA as an indication of the presence of *Acidovorax avenae* subsp. *citrulli* in the first test sample;

10 (e) treating the seed lot from which the first test sample was obtained or a portion thereof with a composition to reduce or eradicate *Acidovorax avenae* subsp. *citrulli*;

15 (f) providing a second test sample from the treated seed lot or treated portion thereof;

20 (g) providing DNA from said second test sample or cells or microorganisms from the second test sample suspected of containing *Acidovorax avenae* subsp. *citrulli*;

25 (h) amplifying target DNA using primers comprising 5'-CGCGCCGACCGAGACCTG - 3' (SEQ. ID NO:1) and 5'-GGGGCACGCCAACATCCT -3' (SEQ. ID NO:2) under amplification conditions;

30 (i) detecting the presence of the amplification product(s) of the target DNA as an indication of the presence of *Acidovorax avenae* subsp. *citrulli* in the second test sample; and

25 (j) comparing the amount of amplification product(s) or absence of amplification products in the second test sample to the amount of amplification products detected in the first test sample in step (d) as an indication of whether or not the treatment has been successful in reducing or eradicating *Acidovorax avenae* subsp. *citrulli* in the seed lot.

4. A test kit for identifying *Acidovorax avenae* subsp. *citrulli* comprising a primer set comprising oligonucleotides having the sequence comprising of 5'-CGCGCCGACCGAGACCTG - 3' (SEQ. ID NO:1) and 5'-GGGGCACGCCAACATCCT -3' (SEQ. ID NO:2).